EN

Original operating instructions

Operating instructions
Pulley Type FZ

Carl Stahl Hebetechnik GmbH
Tobelstraße 2
73079 Süßen

Tel. hotline:
0800 – 2442441-01

Fax hotline:
0800 – 2442441-02

E-mail:
carlstahl@carlstahl.com

Internet:
www.carlstahl-hebetechnik.de

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1. Introduction

The pulley type FZ is used for vertical lifting and lowering of loads. The pulley may only be loaded up to its maximum permissible load capacity. The weight of aids such as traverses must be considered. In case of doubt, use a pulley with higher load capacity.

Before you use the pulley type FZ for the first time, read the operating instructions in their entirety. The operating instructions explain how to safely use, maintain, inspect, and dispose of the pulley type FZ. These operating instructions are a component of the product and must be available to all users. Keep the operating instructions in a safe place for re-use. The pulley type FZ will be called the pulley below.

1.1 Manufacturer/Service

Carl Stahl Hebetechnik GmbH
Tobelstraße 2
73079 Süßen

Telephone hotline
0800 – 2442441-01

Fax hotline
0800 – 2442441-02

E-mail
carlstahl@carlstahl.com

Internet
www.carlstahl-hebetechnik.de

INFO

We will be happy to answer any questions you may have about your product.

1.2 General terms and conditions

The general terms and conditions are available directly from the manufacturer or at:
www.carlstahl-hebetechnik.de/downloads/

1.3 EU declaration of conformity

Content of the document:

For the product designated below

Name:	Pulley
Type:	FZ

we hereby declare that it corresponds to the **basic requirements** specified in the harmonization legislation named below:

DIRECTIVE 2006/42/EC OF THE EUROPEAN PARLIAMENT AND THE COUNCIL of May 17, 2006 about machines and the change of Directive 95/16/EC (new version) – for short: **Machine directive**

Specification of the applicable harmonized standards that apply or details of the specifications for which conformity is declared:

Reference	**Date of issue**	**Title**
Harmonized standards for the machine directive:		
DIN EN ISO 12100 + Correction 1	2011-03 2013-08	Safety of machines – General principles for design – Risk assessment and risk reduction
DIN EN 13157	2010-07	Cranes - Safety - Hand powered cranes
DIN EN 818-7 + Correction 1	2008-07 2009-01	Short link chain for lifting purposes - Safety - Part 7: Fine tolerance chain for hoists, Grade T (Types T, DAT and DT)
Additional applicable technical specifications (not published in the EU official gazette):		
DIN ISO/TR 14121-2 DIN SPEC 33885	2013-02	Safety of machinery - Risk assessment - Part 2: Practical guidance and examples of methods

Authorized within the meaning of Annex II No. 1. A. No. 2, 2006/42/EC for the compilation of the technical documents:

Company	Carl Stahl Hebetechnik GmbH
Address	Tobelstr. 2 D-73079 Süßen

Sole responsibility for issuing this declaration of conformity with regard to meeting the basic requirements and preparation of the technical documents is borne by the manufacturer (or installation company):

Company	Carl Stahl Hebetechnik GmbH
Address	Tobelstr. 2 D-73079 Süßen

Declared by:

Last name, first name	Schwenger, Wolfgang
Function	Managing director

This declaration certifies conformity with the named harmonization legislation, however it does not promise properties.

Additional details:

This declaration applies to all copies that are manufactured according to the corresponding production drawings, which are a component of the technical documents. The attached accompanying documentation that supports the declaration of conformity contains additional details about adherence to above references.

The complete declaration of conformity is attached as a separate document**.**

2. Preparation of information

These operating instructions contain symbols, designations, instructions, and lists as depicted in Chapters 2.1 to 2.2.

2.1 Symbols and designations

Warnings

The warnings are classified and depicted as follows:

DANGER

A warning with the signal word “DANGER” indicates a hazard that can immediately and certainly cause death or severe, lasting injuries.

WARNING

A warning with the signal word “WARNING” indicates a hazard that may cause severe injuries or death.

CAUTION

A warning with the signal word “CAUTION” indicates a hazard that may cause minor to moderate injuries.

ATTENTION

A warning with the signal word “ATTENTION” indicates a hazard that may cause property damage.

In a **warning**, steps are marked with ▶ and structured chronologically.

Pictographs for specific hazards

Meaning:
Warning about suspended load.

Meaning:
Warning about danger of crushing.

Meaning:
Warning about hand injuries.

The pictographs are used in connection with the associated classification and the appropriate signal word.

Useful information and tips

INFO
This symbol identifies useful information and tips.

Disposal

NOTICE ABOUT DISPOSAL
of packaging materials and load lifting devices.

2.2 Instructions and lists

All instructions are structured in chronological order and numbered sequentially, e.g.:

1. Step 1
2. Step 2

The result of an action is marked with an arrow:

➢ Result or device reaction

Instructions that do not have to be carried out in a particular sequence are marked as follows:

- Step
- Step

The result of an action is marked with an arrow:

➢ Result or device reaction

Lists are marked with dashes:

– List

3. Safety

Before you use the pulley, carefully read the following safety instructions.

Chapters 3.1 to 3.3 list basic behavior rules that you must observe when handling the pulley. You must absolutely follow the instructions that are marked with a ⚠ symbol to prevent danger to people. Warnings that belong to individual instructions are always listed before the step in question.

3.1 Basic safety instructions

The pulley has been constructed, tested, and left the company in a perfectly safe condition. In order to maintain this state, you must follow the instructions in these operating instructions.

- Read these operating instructions in their entirety;
- Heed the warnings and safety instructions;
- Make sure that these operating instructions are always available where the pulley will be used;
- Make sure that only suitable specialized personnel perform work with and on the pulley (see Tab. 1);
- During use, comply with the locally-applicable requirements for occupational safety and the work instructions of the operator;
- Consider the circumstances on-site;
- Observe the maximum carrying capacity;
- Consider the tare weight of the pulley, the tare weight must be added to the load:

  Tare weight pulley + weight of load = total weight ▶ Consider the weight of all components with regard to the maximum load capacity!
- You must immediately repair damage that compromises safety;
- Perform all work with great care;
- Never open the standard lifting device/load lifting attachment when it is under load;
- Only use the pulley if the nameplate is easily legible;
- When using the pulley in combination with a sling/load lifting attachment, heed the operating instructions for the sling/load lifting attachment;
- Use only suitable slings/load lifting attachments, take special care that the load capacity of the slings/load lifting attachments fulfills the requirements;
- Make sure that your load chain/hand chain is not twisted;
- Consider the additional tare weight of the sling:

Classification of the qualification areas for load lifting devices

Area of activity	Qualification	Professional knowledge
Delivery and transport	Dealer, mover	– Proof of standard lifting device training – Safe handling of standard lifting devices
Storage	Storage specialist	– Safe handling of standard lifting devices
Start-up, maintenance, and service	Specialized personnel	– Expert: professional training and experience, sufficient knowledge in the area of standard lifting devices – Safe handling of standard lifting devices – Product-specific knowledge
Use, simple visual inspection	Specialized personnel	– Safe handling of standard lifting devices, professional training and experience
Disposal	Specialized personnel	– Knowledge of the regulations for proper disposal and re-use

Tab. 1. *Overview*

3.2 Proper use

The following points comprise proper use:

- Vertical lifting and lowering of non-guided loads;
- Observe the permissible load capacity: **Tare weight of the individual components + load weight;**
- Temperature range from -10 °C to + 50 °C;
- Even distribution of the load;

In addition to the points listed here, additional details must be taken from the technical data and observed (Chapter 4).

3.3 Improper use

The following points comprise improper use:

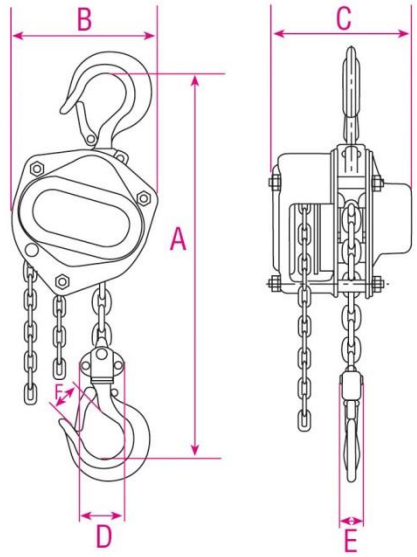
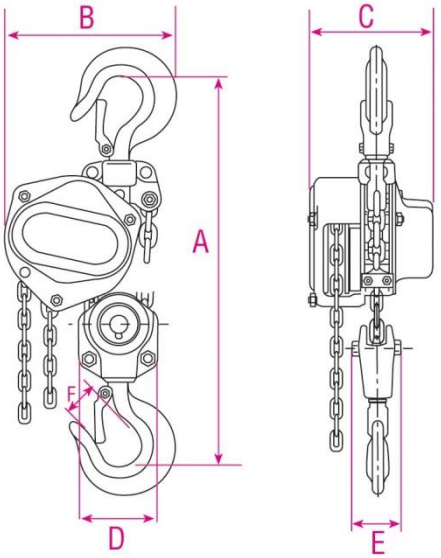
- Exceeding the maximum load capacity;
- Conveying people and animals;
- Transporting fluids and hazardous materials;
- Breaking free stuck loads;
- Changes to the construction;
- If people linger under suspended load;
- In environments that are subject to explosion, or where there is exposure to salt, acid, toxic, and/or alkaline substances;

Chapter 3.3 does not guarantee completeness. Anything that is not expressly permitted falls under improper use.

4. Technical data

Name:	Pulley
Type:	RZ
Model:	RZ 75, RZ 150, RZ 200, RZ 300, RZ 600
Chain type	Round steel chain according to DIN EN 818-7

General information	**FZ 05**	**FZ 10**	**FZ 15**	**FZ 20**	**FZ 30**	**FZ 50**
Load capacity	500 kg	1000 kg	1500 kg	2000 kg	3000 kg	6000 kg
Expenditure of energy with rated load	26 daN	31 daN	35 daN	39 daN	46 daN	47 daN
Number of chain strands	1	1	1	1	2	2
Weight with normal lift	10 kg	12 kg	18.5 kg	20 kg	29 kg	45.5 kg
Standard lift height	3 m	3 m	3 m	3 m	3 m	3 m
Temperature range for storage and use	-10 °C to 50 °C	10 °C to 50 °C	10 °C to 50 °C	10 °C to 50 °C	10 °C to 50 °C	10 °C to 50 °C

Dimensions	
FZ 05, FZ 10, FZ 15, FZ 20	FZ 30, FZ 50
	

	FZ 05	**FZ 10**	**FZ 15**	**FZ 20**	**FZ 30**	**FZ 50**
Dimension in	mm	mm	mm	mm	mm	mm
A	312	360	385	430	490	675
W	140	156	176	223	223	252
C	131	151	151	183	151	183
D	60	61	60	67	106	133
E	33	31	44	58	85	64
F	31	33	38	40	44	49

Tab. 2. *: Technical data*

5. Delivery and transport

5.1 Scope of delivery

Check the delivery to ensure it is complete.

Pieces	Item	Type	Order no.
1	Pulley	FZ05 or; FZ 10 or; FZ 15 or; FZ 20 or; FZ 30 or; FZ 50	15241000015083 15241000015084 15241000015085 15241000015086 15241000015087 15241000015088
1	Original operating instructions	-	-
1	Declaration of conformity	-	-

Tab. 3. *Scope of delivery*

If parts are missing or damaged, contact the manufacturer/dealer (Chapter 1.1).

5.2 Transport

Delivery is made in appropriate packaging.

Always transport the pulley in suitable packaging.

5.3 Storage

ATTENTION

Damage to device due to improper storage!

Improper storage can damage the pulley.

- Store the pulley in a suitable place.
- Store the pulley in a clean, dry place indoors.
- Protect the pulley against:
  - The effects of temperatures that fall below or exceed the permissible temperature range (see Chapter 4).
  - Humidity
  - Soiling
  - Damage
  - Corrosion

6. Structure and function

The pulley consists essentially of the following components:

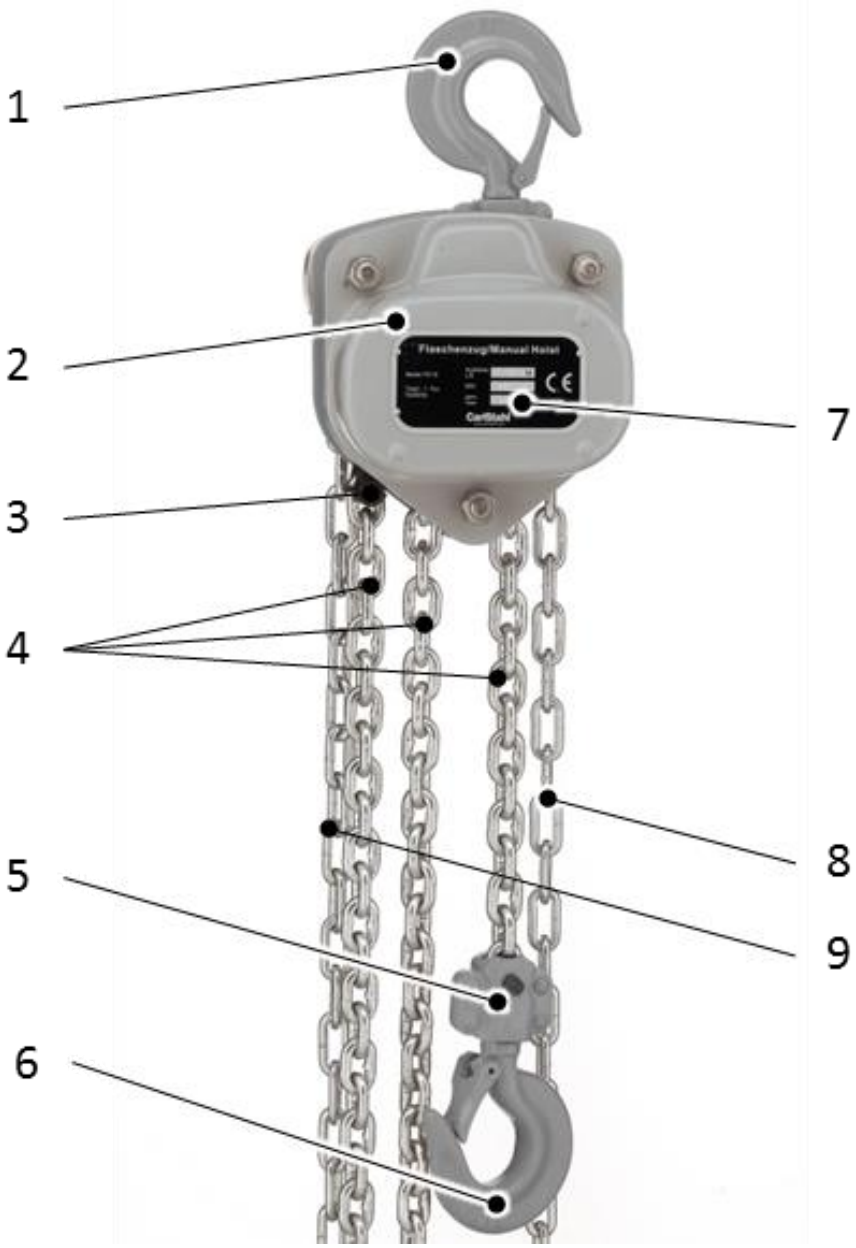


Fig. 1. *Structure*

Position	Name
1	Carrying hook with safety bar
2	Cover for hand chain
3	Chain stop
4	Load chain
5	Hook block
6	Load hook with safety catch
7	Nameplate
8	Hand chain

Tab. 4. *Structure and function*

7. Use

7.1 Inspection before use

An inspection must be conducted before each use. You must conduct an inspection before first use (initial start-up), before each recurring use or after each servicing.

The inspection is intended to ensure that the pulley is in perfect condition and ready for operation.

For the precise details of the corresponding inspections, see the maintenance/inspection plan. Read Chapter 8, especially 8.2 - 8.4.

Before you use the pulley, you must observe the following:

DANGER

Danger to life due to falling load!

A falling load can cause severe injuries or death.

- Never linger under a suspended load.
- Never pass under a suspended load.
- Ensure there is sufficient free space to work.
- Ensure that there are no people in the working area.

WARNING

Danger of crushing due to lack of space!

There is a danger of crushing due to clearances that are too small at the load pick-up point, on the load transport path or at the load drop-off point.

- Inspect your work environment.
- Ensure there is sufficient space at the load pick-up point, on the load transport path, and at the load drop-off point.

7.2 Lifting the load

The load is lifted by pulling on the hand chain in clockwise direction (Fig. 1, Pos. 8)

7.3 Lowering the load

The load is lowered by pulling on the hand chain in counter-clockwise direction (Fig. 1, Pos. 8).

8. Servicing

A standard lifting device must be cleaned, maintained, and inspected regularly. For the maintenance/inspection intervals, see the maintenance/inspection plan.

8.1 Cleaning

INFO

Regular cleaning and careful handling mean that the pulley will be in good condition throughout its life cycle.

Component	Cleaning criteria	Actions
Carrying hook	The carrying hook must be movable and not bent.	Clean
Housing	The housing must be free of dust and dirt.	Clean
Hand chain	The hand chain must move easily, be free of dust and dirt.	Clean
Load chain	The load chain must be movable, free of dust and dirt, and not bent.	Clean and lubricate with oil
Hook block	The hook block must be movable, and free of dust and dirt.	Clean
Load hook	The load hook must be movable and not bent.	Clean
Nameplate	The nameplate must be free of dirt and legible.	Clean

Tab. 5. *Cleaning*

8.2 Maintenance/inspection plan

Maintenance/inspection interval	Activity
Before first use (initial start-up)	– Visual inspection and function check
Before each recurring use of the pulley without extraordinary events	– Visual inspection
Annually	– Visual inspection and function check
Extraordinary inspection	– Depending on external conditions, the **annual** inspection cycle may be shortened. This includes the following points: – After damage events, servicing or special incidents, – Permanent use in shift operation, – Increased wear, – Corrosion, effects of heat due to environmental influences, – etc.

Tab. 6. *Maintenance/inspection plan*

8.3 Inspection criteria

The discard criteria for the pulley are determined by using the inspection criteria in the following table. For the base value, specified in mm, see Technical data (see Chapter 4).

Component	Inspection criteria	Actions
Carrying hook	Any type of deformation and wear	Take out of service and contact manufacturer/service
Housing	Any type of deformation and wear	Take out of service and contact manufacturer/service
Hand chain	Any type of deformation and wear	Take out of service and contact manufacturer/service
Load chain	Any type of deformation and wear	Take out of service and contact manufacturer/service
Hook block	Any type of deformation and wear	Take out of service and contact manufacturer/service
Load hook	Any type of deformation and wear	Take out of service and contact manufacturer/service
Nameplate	Legibility	Take out of service and contact manufacturer/service

Tab. 7. *Inspection criteria*

8.4 Visual inspection and function check

The pulley must be checked and inspected before each use. The tables on page 12 list criteria which may indicate that you must take the pulley out of service.

DANGER

Danger to life due to falling load!

Due to deformation and wear of the individual components, the load capacity may be reduced and the load can fall.

- Check the pulley for defects.
- Check to what extent the individual components are functional.
- Take the pulley out of service by marking it appropriately, if it is no longer functional and is irreparably damaged (see Chapter 9.1).
- If necessary, contact the manufacturer/service (see Chapter 1.1).
- If necessary, dispose of the pulley (see Chapter 9.2.)

Visual inspection

1. Check the pulley for visual defects such as:
   - Cracks,
   - Deformation,
   - Wear,
   - Completeness,
   - Expansion and lengthening of the chain links.
2. Take the pulley out of service if it is damaged.

General function check

1. Check all moving parts to ensure they move easily.
2. Check the functionality of the pulley.
3. Take the pulley out of service, if its function is compromised.

9. Taking out of service and disposal

9.1 Taking out of service

1. Take the pulley out of service by marking it.
2. Contact the manufacturer/service (see Chapter 1.1).
3. If necessary, dispose of the pulley.

9.2 Disposal

Disposal of the pulley

NOTICE ABOUT DISPOSAL

If the pulley can no longer be repaired or if it is no longer functional, it must be disposed of in accordance with the applicable legal provisions.

Disposal of packaging material

NOTICE ABOUT DISPOSAL

According to the Packaging Ordinance, the dealer must take back for re-use and/or ensure disposal of the packaging for its products which does not bear the symbol of a system for complete disposal (such as the Green Dot of the Duales System Deutschland AG).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